

REDUCED GLARE AND REDUCED ENERGY USE

Wallpack luminaires are commonly used on buildings of all types. However, they are notorious for poor control of light output, which contributes to “sky glow” and light trespass problems. Because of the poor optical design, conventional wallpacks have an effective light projection of only 30 feet at 15-foot mounting heights.

The new low-glare wall sconce prototype from Gardco Lighting, addressed the shortcomings of the conventional wall-pack. This luminaire effectively projects light up to 45 feet from the base of the building at 15-foot mounting heights. The improved optics give better illumination and reduce light “pollution.”

The prototype featured a ceramic metal halide lamp and a semi-cutoff tilted lens. With the higher optical efficiency, designers can specify 33 percent fewer luminaires per installation, reducing both installed and operating costs.



Gardco also applied the wall sconce's optics into a pole-mounted perimeter light that can reduce light trespass from parking areas into adjacent spaces. Gardco plans to introduce a commercial product based on these designs in 2006, intended for a 70 watt lamp as a replacement for a standard 175 watt fixture.

LOW-GLARE OUTDOOR LUMINAIRE

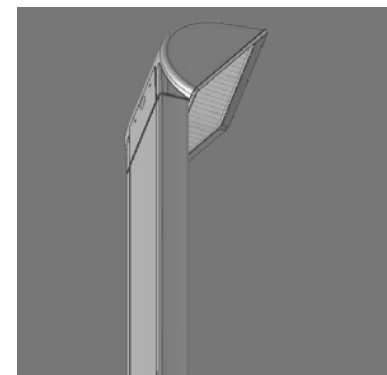
LAWRENCE BERKELEY NATIONAL LABORATORY (LBNL) WORKED WITH GARDCO LIGHTING TO MODEL ADVANCED OPTIC DESIGNS THAT PROVIDE HIGHER AVERAGE ILLUMINATION WITHIN THE LIGHTED ZONE WHILE REDUCING LIGHT POLLUTION BEYOND THE LIGHTED AREA.

THE RESULTS ARE TWO PROTOTYPES—A WALL SCONCE AND A POLE-MOUNTED FIXTURE—THAT OFFER UP TO 30 PERCENT ENERGY SAVINGS FOR NEW OR RETROFIT APPLICATIONS.



The new luminaire could help save energy and provide safety benefits for commercial building owners.

IMPROVE OUTDOOR LIGHTING PERFORMANCE



**The Gardco Forward Form
Perimeter Light Prototype**

Benefits

Gardco's prototypes using either 100- or 150-watt ceramic metal halide lamps with electronic ballasts provide numerous benefits compared to standard wallpacks with 150-watt high- pressure sodium lamps:

- 30 percent energy savings in new or retrofit applications with the 100-watt unit
- 33 percent fewer fixtures and 50 percent more coverage in new installations
- Improved optics using a semi-cutoff design that reduces light pollution
- Whiter light with higher color quality
- Comparable lamp life—20,000 hours
- Potential for significant annual energy savings in California

Building owners will receive more uniform, better quality lighting with less light pollution and reduced energy costs.

INTERESTED?

Commercial and institutional building owners/managers, contractors, and designers, as well as code developers and utility staff, will benefit from learning about the new low-glare outdoor luminaires.

Key next steps include:

- Demonstrate the new fixture at different types of buildings.
- Consider code changes to stimulate use of low-glare luminaires.
- Disseminate product information to lighting designers and contractors.
- Educate building managers about low-glare, high-efficiency lighting that can reduce night sky pollution.
- Stimulate other manufacturers to produce similar products.

A product based on these design improvements is expected to be commercially available soon.

This project was part of the PIER Lighting Research Program. To view the project results, as well as other current research activities, visit www.energy.ca.gov/pier.

For more information, visit the following websites:

- PIER contractor site:
www.archenergy.com/lrp/lightingperf_standards/project_5_3.htm
- PIER researcher site:
http://lighting.lbl.gov/l_distribution.html



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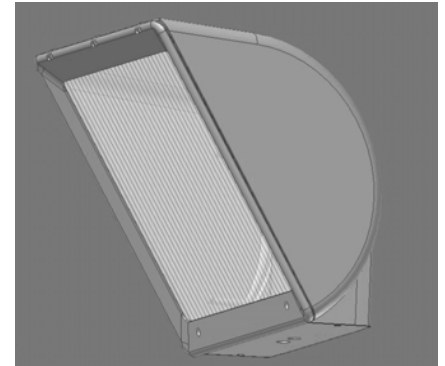
Gardco Lighting
www.sitelighting.com

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LOW-GLARE WALL SCONCE



INCREASED COVERAGE,
LOWER ENERGY USE,
BETTER CONTROL OF
LIGHT POLLUTION



Public Interest
Energy Research